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The WFI Science Products Module

The US will provide several important contributions to the Athena Wide Field Imager (WFI) instrument. One of these, the Science Processing Module (SPM), is a highly capable secondary CPU dedicated to providing enhanced science return by performing special processing on the science data stream that is beyond the scope of the main Central Processing Module. The SPM will have access to the full event stream from the detector arrays, including both accepted X-ray events packets and event packets that are rejected by the on-board event recognition processing. It will include two software modules: a Transient Analysis Module and a Background Analysis Module. The Transient Analysis Module will perform on-board processing of the science images to characterize variability of the prime target and to identify serendipitous transient X-ray sources in the field of view. The Background Analysis Module will perform more sophisticated flagging of potential background events (beyond what is done on the full image frames by the event recognition algorithm in the Frame Builder) as well as improved background characterization, making use of data that are not telemetered to the ground but can be used to provide improved background maps and spectra. We will present an overview of the SPM.